

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Original): Protein conjugates comprising hemoglobin and human serum albumin.

Claim 2 (Currently amended): Protein conjugates according to claim 1, wherein said conjugates have ~~has~~ a molecular weight in a range of 100-300kD.

Claim 3 (Currently amended): Protein conjugates according to claim 1, wherein said conjugates comprise ~~comprising~~ 1-3 hemoglobin molecules and 1-3 human serum albumin molecules.

Claim 4 (Currently amended): Protein conjugates according to claim 1 ~~3~~, wherein said conjugates comprise ~~comprising~~ 1-2 hemoglobin molecules and 1-2 human serum albumin molecules.

Claim 5 (Currently amended): Protein conjugates according to claim 1 ~~4~~, wherein said conjugates comprise ~~comprising~~ one hemoglobin molecule and one human serum albumin molecule.

Claim 6 (Currently amended): Protein conjugates according to claim 1, wherein ~~the~~ said hemoglobin is intramolecularly cross-linked.

Claim 7 (Original): A method for preparing the protein conjugates of claim 1 comprising

preparing stroma-free hemoglobin,

conjugating hemoglobin (Hb) with human serum albumin (HSA), and

purifying said Hb-HSA conjugates.

Claim 8 (Currently amended): The method of claim 7, wherein the stroma-free hemoglobin is prepared by ~~membrane filtration and ion exchange chromatography,~~ comprising the steps of:

~~Processing~~ processing a hemoglobin solution through microfiltration membranes with a mean pore size from 0.22 μm to 0.65 μm , ~~followed by~~

treating the hemoglobin solution through ultrafiltration with membranes of a molecular weight cut-off from 10kD to 30kD[;], and

~~The pretreated hemoglobin solution further purified~~ purifying the hemoglobin solution by anion exchange chromatography in a flow-through mode at 4-10°C, with 10-50mM buffer, pH 6.6- 8.5, and using 0.25-10% polyethylene glycol (PEG) 400-4000 as an escort.

Claim 9 (Currently amended): The method of claim 7, wherein Hb and HSA ~~conjugation methods~~ is conjugated through either a one-step or two-step coupling; ~~wherein in two step coupling, the cross linker reacts first with one protein either in solution or on solid medium, then reacts with another protein in solution.~~

Claim 10 (Currently amended): The method of claim 7, wherein the ~~purification of Hb-HSA conjugates~~ are purified by comprising either one, two or three of the methods selected from ion exchange chromatography, ultrafiltration, and gel filtration chromatography, or a combination thereof.

Claim 11 (Currently amended): A method for using the hemoglobin conjugates of claim 1, wherein said conjugates are used as blood substitutes.

Claim 12 (New): The method of claim 7, wherein Hb and HSA is conjugated through the two-step coupling.

Claim 13 (New): The method of claim 12, wherein Hb and HSA conjugation is conducted by a cross-linker first reacting with one of said Hb and HSA in a solution or on a solid medium, then, reacts with another of said Hb and HSA in a solution.